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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,249	07/26/2006	Tomoharu Nishioka	SPL-06-1211	9642

35811 7590 07/29/2010  
IP GROUP OF DLA PIPER LLP (US)  
ONE LIBERTY PLACE  
1650 MARKET ST, SUITE 4900  
PHILADELPHIA, PA 19103

EXAMINER
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KASHNIKOW, ERIK

ART UNIT	PAPER NUMBER
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1782

NOTIFICATION DATE	DELIVERY MODE
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07/29/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto.phil@dlapiper.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,249	<b>Applicant(s)</b> NISHIOKA ET AL.	
	<b>Examiner</b> ERIK KASHNIKOW	<b>Art Unit</b> 1782	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 June 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12,13,17,19,21-23,27-29,31 and 33-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12,13,17,19,21-23,27-29, 31 and 33-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12-13, 17, 19, 21-23, 27-29, 31 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al (US 6,656,553) in view of Nishi et al (JP 07-173447) hereinafter Nishi JP.

In regards to claims 12-13 and 21 Nishi et al. teach a 3 layer tube with the inner most layer being a fluorine containing polymer with functional group which has reactivity with polyamide based resins, including terephthalic acid and 1,9-nonanediamine (claims 1 and 2 and column 5 lines 55 to column 6 line 65) and teaches an additional outer layer for the tube (claim 5) and gives polyamide 12 as an example of the polyamide for the outer layer (example 2). Further Nishi et al. teach that it is known in the art to add flame retardants, lubricants and dyes to fuel hoses to improve aesthetic properties, and protect against fires (6,656,553 column 8 lines 30-40).

3. In regards to claim 17 and 27 Nishi et al. teach in claim 1 that the fluorine layer is an ethylene/tetrafluoroethylene copolymer.

Art Unit: 1782

4. In regards to claim 22 the intermediate layer taught by Nishi et al. would meet all the limitations of Applicant's layers (b) and (d). It teaches polyamides that maybe semi-aromatic polyamides that have terminal amino groups present in ratios which can fit the concentration limitations of applicant's claims (column 5 lines 55 to column 6 line 65).

As such examiner points to MPEP 2144.04 section VI which states that duplication of parts has no patentable significance unless new and unexpected results are produced.

As both layers are used to increase adhesion to the other layers no unexpected results would be produced. It is also pointed out that one would be motivated to double the layers, and place them adjacent to each other to increase the overall adhesive strength between all the layers. Nishi et al. further teaches that the tube can be co extruded (column 1 lines 50-60).

5. In regards to claim 23 Nishi et al. teach that the Polyamide layer can be an outer layer (claims 1 and 5-7).

6. In regards to claim and 28 Examiner treats these claims as product by process claims (MPEP 2113) and therefore patentability is defined by the product itself and not by the process, as such the terminal modified polyamine is the product and has been previously rejected. In this case the Applicant's and the reference teach a polyamide that has been modified by a diamine, in this instance, a product by process claim, the process of making the product, whether it be adding the diamine during the polymerization or after polymerization leads to the same product, and the claims are therefore rejected.

Art Unit: 1782

7. In regards to claims 19, 29 and 31 Nishi et al. teach adding a conductivity imparting filler to the inner layer when the hose is to be used as a fuel hose/tube (column 9 lines 22-30).

8. As stated above Nishi teach a 3 layer tube with an outer polyamide layer and a fluoropolymer layer however they are silent with regards to the use of carboxylic anhydride groups used therein.

9. In regards to claims 12, 22 and 33-35 Nishi JP teach fluoropolymers with carboxylic anhydride groups therein which is useful for bonding to various organic and inorganic materials (claim 2), including polyamides (paragraph 0058).

10. One of ordinary skill in the art at the time of the invention would be motivated to modify the invention of Nishi JP with that of Nishi et al. because the invention of Nishi JP offers firm adherence to a wide variety of substrates (paragraph 0001).

11. Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi et al (US 6,656,553) in view of Nishi et al (JP 07-173447) hereinafter Nishi JP and Audenaert et al (US 2004/0077775).

12. As stated above Nishi et al. and Nishi JP teach a hose with 3 layers, wherein a polyamide layer is an outer layer and a fluoropolymer layer is an inner layer, however they are silent with regards the functional group of the fluoropolymer layer being itaconic acid anhydride.

13. Audenaert et al. teach a thermoplastic resin containing fluorine polymer for rendering substances oil, water or stain repellant (paragraph 0002)

Art Unit: 1782

14. In regards to claims 36 and 37 Audenaert et al. teach that the functional group for the fluorine containing compound can be an itaconic acid anhydride (paragraph 0050), which applicants list in their specification as one of the preferred functional groups to be added to the fluorine containing polymer.

15. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fuel tube of Nishi and Nishi JP with the fluorine containing polymer of Audenaert et al. because the tube of Nishi and Nishi would benefit from the improved oil repellant properties of the polymer of Audenaert et al. (column 1 lines 4-9) as well as increased interface affinity between the fluoropolymer and the thermoplastic polymer.

### ***Response to Arguments***

16. Applicant's arguments, see arguments, filed 06/07/2010, with respect to the Stoepplemann rejections and the 35 U.S.C. 112 rejections have been fully considered and are persuasive. These rejections of the claims have been withdrawn.

17. It is noted that claim 19, which had not previously been rejected by the Nishi et al. reference was added to the rejection, as such the action is non final.

18. In response to Applicant's arguments regarding the Nishi et al. reference it is noted that 12 aminododecanoic acid and dodecane lactam are not dicarboxylic acids or diamines. The claim languages requires that the dicarboxylic and diamine units present

are 50 and 60 % by weight of all the diamine and dicarboxylic units, and not of all the units present, as such the Nishi et al. teach embodiments wherein the terephthalic acid and 1,9 nonane-diamine units are present in 100% mass by weight of all diamine and dicarboxylic units (column 5 line 55- column 7 line 17).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIK KASHNIKOW whose telephone number is (571)270-3475. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (Second Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/587,249  
Art Unit: 1782

Page 7

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Examiner  
Art Unit 1782

/Rena L. Dye/  
Supervisory Patent Examiner, Art Unit 1794